MobileLAN™

Intermec

Product
Profile

- **Fiber optic connectivity without cumbersome and costly external converters**

- **10/100 Ethernet for the highest data rates possible**

- **VoIP optimization to leverage the wireless LAN for voice and data**

- **Integrated Power over Ethernet solution eliminates expensive cabling**

- **IEEE 802.11b compliant and Wi-Fi certified ensures interoperability**

- **11 Mbps performance supports bandwidth-intensive applications**

- **NEMA4/IP54 case withstands harsh environments**

MobileLAN™ access 2100

MobileLAN™access 2100 is an 11 Mbps wireless access point available for high-speed, high-throughput, demanding environments. Compliant with 802.11b standards, MobileLAN access 2100 sets a new standard in access points with advanced features and better performance. Housed in a NEMA4/IP54 case with heater options, MobileLAN access 2100 is the ideal access point for harsh environments where cold temperatures, small airborne particles and moisture are prevalent.

High performance wireless communications
Fiber optic network connectivity is now possible on MobileLAN access 2100 via an MT-RJ connector.

Wireless service on 100 Mbps networks is now achievable with 10Base-T/100Base-Tx compatibility on MobileLAN access 2100. It auto negotiates with the device it is connected to allowing the data rate to be set at the highest rate at which both devices can communicate.

Intermec's patented dual radio support as well as support for S-UHF, 900Mhz and Open Air technologies continue to be available on MobileLAN access 2100.

Recognizing that Ethernet can have data rates as high as 100Mbps and that radio data rates are no more than 11 Mbps, Intermec designed a more efficient method for its access points to forward packets from the Ethernet to the radios. MobileLAN access 2100 uses hardware-based packet filtering, which ensures fewer dropped packets, less network congestion and better overall performance.

MobileLAN access 2100 leads the industry with seamless IP tunneling. This feature eliminates the requirement to have the routing application reside in the client. The technology supports wall-to-wall bridging, which allows your wireless network to grow without the expense of expanding the wired backbone.

MobileLAN access 2100 expands the options available to IT managers with integrated Power over Ethernet and support for VoIP.

IP addresses are easier and less expensive to administer on MobileLAN access 2100 with DHCP (Dynamic Host Configuration Protocol) server functionality. MobileLAN access 2100 can use any standard RADIUS server for optimum network security. Additional security is provided through WEP key management.

MobileLAN™ access 2100

Physical Characteristics

Length: 355 mm (14.0")
Height: 95 mm (3.75")
Width: 236 mm (9.3")
Weight: 2.63 kg (5.8 lb)
Input Voltage: 100-240 VAC Auto Ranging Power Supply
Input Power: 15 Watts Optional Heater Additional 75 Watts
Supports dual radio and mixed dual radio operation wireless bridging DHCP client and server NAT server radius server

Wireless LAN Characteristics

802.11b Wireless Radio
Frequency Band: 2.4 GHz, actual frequencies vary by country.
Radio Type: IEEE 802.11b (11 Mbps)
Modulation: Direct Sequence Spread Spectrum (CCK, DQPSK, DBPSK)
Radio Power Output: 15 dBm
Radio Data Rate: 11 Mbps High/5.5 Mbps Medium/2 Mbps Standard/1 Mbps low Automatic Fallback for increased range
Channels: United States (FCC) 11 Channels, Europe (ETSI) 13 Channels, other countries per local regulations.
Bit Error Rate: Better than 10⁵

Range	1Mbps	2 Mbps
Open Environment	1750ft (533m)	1300ft (396m)
Semi-Open	375ft (114m)	300ft (91m)
Closed Environment	165ft (50m)	130ft (40m)
Unlimited range with roaming		
Receiver Sensitivity:	-95 dBm	-92 dBm

Range	5.5 Mbps	11 Mbps
Open Environment	885ft (270m)	525ft (160m)
Semi-Open	230ft (70m)	165ft (50m)
Closed Environment	115ft (35m)	80ft (24m)
Unlimited range with roaming		
Receiver Sensitivity:	-87 dBm	-82 dBm

Security: IEEE 802.11 Wired Equivalent Privacy (WEP) standard, WEP64 and WEP128 are supported

2.4 GHz OpenAir Wireless Radio
Frequency Band: 2.4 GHz, actual frequencies vary by country.
Radio Type: WLI Forum OpenAir
Radio Power Output: 500 mW /100 mW (Europe)
Radio Data Rate: 1.6 Mbps per channel. 800 Kbps fallback rate for extended range.

Channels: Supports 15 independent, non-interfering "virtual channels" (hopping patterns)
Receiver Sensitivity: -77 dBm @ 1.6 Mbps / -85 dBm @ 800 kbps
Range: Up to 150meters (500 ft.) radius indoors, 300 meters (1000 ft.) outdoors.
Security: 20 digit security ID's available.

900MHz Falcon Wireless Radio
Frequency Band: 902-928 MHz frequency band
Radio Type: Direct Sequence Spread Spectrum (DSSS)
Radio Power Output:
Minimum: 24 dBm (250 mW)
Typical: 25.5 dBm (350 mW)
Maximum: 27 dBm (500 mW)
Radio Data Rate: 90, 255, or 450 Kbps
Channels: 7 @ 90 Kbps, 1 @ 225 or 440 Kbps
Range: Up to 600 meters (2000 ft.) (line of sight)
Coverage: 9,000-31,500 meters (100,000-350,000 sq. ft.) (conservative)

Synthesized UHF Wireless Radio
Frequency Band: 430-450 MHz (Low Band) 450-470 MHz (High Band)
Radio Type: Synthesized UHF (four-level frequency shift keying)
Radio Power Output: 0.5 W (27 dBm) Low and High Bands, 10 mW (10 dBm)
Radio Data Rate: 19.2 Kbps (14.4 Kbps with forward error correction)
Receiver Sensitivity: -105 dBm
Range: Up to 1,067 m (3,500 ft.) line of sight
Coverage: 0.5 W, 74,320 sq m (800,000 sq ft) indoors; 10 mW, 9,290 sq m (100,000 sq ft) indoors
Channels Spacing: 20 KHz or 25 KHz

Network Information

Ethernet Interface: 10/100 BaseT
Optional MT-RJ Fiber Interface (new)
Ethernet Data Rate: 10/100Mbps
Filtering Rate: Full Ethernet Rate
Filters: Protocol Filters–IP, IPX, NetBEUI, DECNET, AppleTalk, Other Broadcast Traffic Filters–IP, ARP, Novell RIP, SAP and LSP, Adjustable bandwidth allocation.

Software Upgrades: Downloadable using Web Browser or TFI over the network or serial port.

Management

Management Interfaces: SNMP; Web browser-based manager; serial port, or Telnet via RF, serial and Ethernet.
SNMP Version1 Agent supporting:
SNMP Traps: Cold start, authorization violation, MobileLAN access point enterprise specification
SNMP MIBs: RFC 1213, RFC 1398, RFC 1493, MobileLAN access point MIB

Environment

Operating:
Standard Unit: -25° to 70°C (-13° to 158°F)
Heater Option: -30° to 70°C (-22° to 158°F)
Heater Option with insulated bag: -30° to 0°C (-22° to 32°F)
Storage Temperature Range: -40° to 70°C (-40° to 158°F)
Humidity (Non-Condensing): 10 to 90% relative humidity, non-condensing
Industrial Sealing: IP54 (NEMA 4)

Accessories

- Mounting Brackets
- Wide selection of RF Antennas and Cables

Regulatory Approvals

FCC Part 15.247 Certified; Canada RSS 210 Certified; ETS 300 328 Type Approved; EN 55022 / CISPR 22 Class A; FCC Part 15 & ICES-003 Class A; SCT Certification, NOM-EM-121; AS 3548, C tick Marked; Compliant with all European Directives, CE Marked (ETS 300 826); UL Listed, UL 1950/C22.2 #950 IEC; 60529-IP53 and C22.2 #94-ENC3.5; Non-incendive 2.4 GHz and 900 MHz antenna circuits UL Listed, UL 1604 & C22.2 #213 for Div 2; Class I–Groups A, B, C & D; Class II–Groups F & G; Class III; TÜV Licensed, EN 60950 & EN 60529-IP53; NYCE Certified, NOM 19

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Wi-Fi™
The Standard for Wireless Fidelity.

MobileLAN™

Product
Profile

- **Dual Radio Capability Supports Mixed Wireless Technologies, Voice Data Segmentation, Wireless Bridging, and Wireless Access Points**

- **High Performance 10/100 Ethernet With Hardware Switching Support**

- **Fiber optic connectivity without cumbersome and costly external converters**

- **QOS for VoIP optimization to leverage the wireless LAN for voice and data**

- **IEEE 802.11b compliant and Wi-Fi™ certified ensures interoperability**

- **11 Mbps performance support for bandwidth-intensive applications**
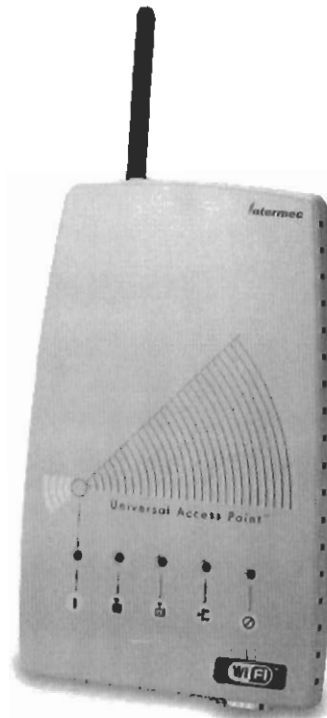
M o b i l e L A N™ a c c e s s   2 1 0 1

Most advanced wireless access point
MobileLAN™access 2101 is an 11 Mbps wireless access point available for high-speed, high-throughput, demanding environments. 802.11b compliant, Mo-bileLAN access 2101 sets a new standard in access points with advanced features, better performance and a lower price.

High performance wireless communications
Extensive feature set for Enterprise appli-cations. MobileLAN access 2101 continues to expand the rich feature set within Intermec access points. New features in-clude an internal RADIUS server for client authentication, DHCP server and NAT sup-port. These features are in addition to IP tunneling support, system wide software distribution, and other current features.

Fiber optic network connectivity is now possible on MobileLAN access 2101 via an optional MT-RJ connector.
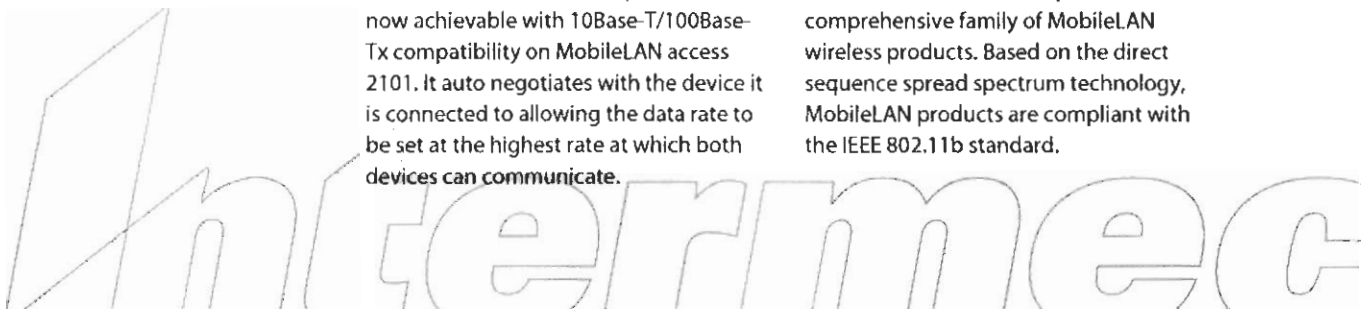
Wireless service on 100 Mbps networks is now achievable with 10Base-T/100Base-Tx compatibility on MobileLAN access 2101. It auto negotiates with the device it is connected to allowing the data rate to be set at the highest rate at which both devices can communicate.

Intermec's patented dual radio support as well as support for Open Air technology continues to be available on MobileLAN access 2101.

Recognizing that Ethernet can have data rates as high as 100Mbps and that radio data rates are no more than 11 Mbps, In-termec designed a more efficient method for its access points to forward packets from the Ethernet to the radios. Mobile-LAN access 2101 uses hardware-based packet filtering, which ensures fewer dropped packets, less network congestion and better overall performance.

MobileLAN access 2101 leads the industry with seamless IP tunneling. This feature allows multiple subnet mobility for any IP clients, without the need for specific IP mobility software within client devices. Wireless bridging support, and wireless access points serving as repeaters con-tinue to be supported as well.

MobileLAN access 2101 is part of the comprehensive family of MobileLAN wireless products. Based on the direct sequence spread spectrum technology, MobileLAN products are compliant with the IEEE 802.11b standard.

MobileLAN™ access 2101

Physical Characteristics
Length: 250 mm (9.84")
Height: 38 mm (1.49")
Width: 159 mm (6.27")
Weight: .526 kg (1.16 lb)
Input Voltage: 5 VDC, Supply with external power supply, 100-240 VAC Auto Ranging Power Supply, AC requirements 15 Watts
Supports dual radio and mixed dual radio operation wireless bridging DHCP client and server NAT server radius server

Wireless LAN Characteristics
IEEE 802.11b High Rate Wireless Radio
Frequency Band: 2.4 GHz, actual frequencies vary by country
Radio Type: IEEE 802.11b High Rate (11 Mbps)
Modulation: Direct Sequence Spread Spectrum (CCK, DQPSK, DBPSK)
Radio Power Output: 15 dBm
Radio Data Rate: 11 Mbps High/5.5 Mbps Medium/2 Mpbs Standard/1 Mbps Low Automatic Fallback for increased range
Channels: United States (FCC) 11 Channels, Europe (ETSI) 13 Channels, other countries per local regulations
Bit Error Rate: Better than 10-5

Range	1 Mbps	2 Mbps
Open Environment	1750ft (533m)	1300ft (396m)
Semi-Open	375ft (124m)	300ft (91m)
Closed Environment	165ft (50m)	130ft (40m)
Unlimited range with roaming		
Receiver Sensitivity:	-95 dBm	-92 dBm

Range	5.5 Mbps	11 Mbps
Open Environment	885ft (270m)	525ft (160m)
Semi-Open	230ft (70m)	165ft (50m)
Closed Environment	115ft (35m)	80ft (24m)
Unlimited range with roaming		
Receiver Sensitivity:	-87 dBm	-82 dBm

Security: IEEE 802.11 Wired Equivalent Privacy (WEP) standard, 128-bit wep, 64 bit WEP supported

2.4 GHz OpenAir™ Wireless Radio
Frequency Band: 2.4 GHz, actual frequencies vary by country
Radio Type: WLI Forum OpenAir™ Compatible Frequency Hopping Spread Spectrum (FHSS)
Radio Power Output: 100 mW
Radio Data Rate: 1.6 Mbps per channel, 800 Kbps fallback rate for extended range
Channels: Supports 15 independent, non-interfering "virtual channels" (hopping patterns)
Range: Up to 150 meters (500 ft.) radius indoors, up to 300 meters (1000 ft.) radius outdoors
Compatibility: Fully interoperable with Model 0110, 0111 & 6710 Access Points as well as all certified WLI Forum OpenAir™ products
Security: 20 digit security id's available

Network Information
Ethernet Interface: 10/100 BaseT
Ethernet Data Rate: 10/100Mbps
Filtering Rate: Full Ethernet Rate
Filters: Protocol Filters–IP, IPX, NetBEUI, DECNET, AppleTalk, Other Broadcast Traffic Filters–IP ARP, Novell RIP, SAP and LSP, Adjustable bandwidth allocation
Software Upgrades: Downloadable using Web Browser or TFTP over the network or serial port

Management
Management Interfaces: SNMP; Web browser-based manager; text-based menu system, serial port, or Telnet via RF, serial and Ethernet
SNMP Version 1 Agent supporting:
SNMP Traps: Cold start, authorization violation, MobileLAN access point enterprise specific trap
SNMP MIBs: RFC 1213, RFC 1398, RFC 1493, MobileLAN access point MIB

Physical Management Connections:
Phone line via customer-supplied modem: Ethernet; wireless network; direct cabled connection/DB9 plug, requires customer-supplied null modem cable

Environment
Operating:
Standard Unit -20° to 65° C (-4° to 149° F)
Storage Temperature Range:
-40° to 70° C (-40° to 158° F)
Humidity (Non-Condensing): 10 to 90% relative humidity, non-condensing

Accessories
- Mounting Brackets
- Serial Console Cable
- Wide selection of RF Antennas and Cables

Regulatory Approvals
FCC Part 15.247 Certified
Canada RSS 210 Certified
ETS 300 328 Type Approved
EN 55022 / CISPR 22 Class B
FCC Part 15 & ICES-003 Class A
SCT Certification, NOM-EM-121, pending
AS 3548, C tick Marked
Compliant with all European Directives, CE Marked (~ETS 300 826)
UL Listed, UL 1950 & IEC 60529–IP53
CSA Certified, C22.2 #950 & C22.2 #94–ENC 3.5
TUV Licensed, EN 60950 & EN 60529–IP53
NYCE Certified, NOM 19

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The Standard for Wireless Fidelity.

MobileLAN™

Product
Profile

M o b i l e L A N™   a c c e s s   2 1 0 2

- **Wireless access anywhere in the enterprise**

- **Lightweight and low cost**

- **Industry-standard technologies for seamless integration**

- **Add wireless capabilities without the expense of extra hubs, servers or complicated wiring**

The 2102 Access Point is the choice for high performance wireless LANs and supports the most demanding require-ments for wireless LAN applications in office environments. The 2102 lets mobile computing clients roam any-where throughout an enterprise without losing their network connection.

The 2102 uses industry standard IEEE 802.11b high-rate and OpenAir wireless technologies, supporting up to 11 Mpbs data rates. With a sleek, professional design and weight of less than eight ounces, the 2102 is designed for easy integration in office environments.

The 2102 is the latest in a family of high performance wireless LAN products from Intermec that are easy to install and manage. Together with 2100 and 2101 access points, the 2102 provides wireless networking solutions for companies regardless of the complexity of their networking requirements. Intermec's family of access points offers fully

integrated IP Tunneling, an enhancement that allows large wireless LANs to span across multiple subnets. This allows users of wireless-enabled laptops and other mobile computing devices to maintain a continuous, high quality network connection while seamlessly roaming anywhere throughout the enterprise.

As an added benefit for network adminis-trators, Intermec's wireless LAN access points automatically track and connect roaming clients without the cost and complexity of a dedicated mobile IP server or additional hubs and cabling. Intermec's innovative design ends the cumbersome, user-table programming and setup, and eliminates what could be-come a single point of failure on a wireless LAN.

Intermec's family of high performance wireless LAN products allows companies to quickly, easily, and affordably add wireless networking to their existing infra-structure.

MobileLAN™ access 2102

Physical Characteristics
Length: 14.66 cm (5.77")
Width: 3.53 cm (1.39")
Height: 9.32 cm (3.67")
Weight: 232g (.51 lbs.)
Input Voltage: 5 VDC. Supply with external power supply. 100-240 VAC Auto ranging power supply.

Wireless LAN Characteristics
IEEE 802.11b high-rate GHz Direct Sequence Wireless Radio
Frequency Band: 2.4 GHz frequency band; actual frequencies in use vary by country.
Radio Type: IEEE 802.11b high-rate Direct Sequence Spread Spectrum (DSSS)
Radio Power Output: 32 mW (15dBm)
Radio Data Range: 11 Mps, 5.5 Mps, 2 Mbps, 1 Mbps with automatic fallback for increased range.
Channels: United States (FCC) 11 channels; Europe (ETSI) 13 channels; other countries per local regulations.
Receiver Sensitivity: -91 dBm @ 2 Mbps / -95 dBm @ 1 Mbps
Range:
2 Mbps: 356m (1200') open environment
1 Mbps: 425m (1400') open environment
Limited using roaming
Compatibility: Designed to comply with IEEE 802.11 Direct Sequence wireless LAN standard for 2.4 GHz DSSS radio implementations.

2.4 GHz OpenAir™ Wireless Radio
Frequency Band: 2.4 GHz frequency band; actual frequencies in use vary by country.
Radio Type: WLI Forum OpenAir™ Compatible Frequency Hopping Spread Spectrum(FDHS)
Radio Power Output: 100 mW
Radio Data Range: 1.6 Mbps per channel.

800 Kbps fallback rate for extended range.
Channels: Supports 15 independent, non-interfering "virtual channels" (hopping patterns)
Receiver Sensitivity: -91 dBm @ 2 Mbps / -95 dBm @ 1 Mbps
Range: up to 150m (500') radius indoors. Unlimited using roaming.
Compatibility: Fully interoperable with Model 0110, 0111, 6710, 2101, 2100 Access Points as well as all certified WLI Forum OpenAir products and WLI Forum certified product.
Security: 20 digit security ID's available.

Network Information
Ethernet Interface: 10BaseT
Ethernet Data Rate: 10 Mbps
Filtering Rate: Full Ethernet Rate (14,880 packets/second)
Filters:
Protocol Filters: IP, IPX, NetBEUI, DECNET, AppleTalk.
Other Broadcast Traffic Filters: IP, ARP, Novell RIP, SAP and LSP.
Adjustable bandwidth allocation.
Software Upgrades: Downloadables over the network or serial port.

Management
Management Interfaces: SNMP; Web browser-based manager; text-based menu system, serial port, or Telnet via RF, serial and Ethernet.
SNMP Agents: Version 1 RFC 1213, 1493, (IEEE 802.11 iD MIB), Enterprise MIB
SNMP Traps: Cold start, link up, link down, authorization violation.
Physical Management Connections: Phone line via customer-supplied modem: Ethernet; wireless network; direct cabled connection/DB9 plug, requires customer-supplied null modem cable.

Environment
Operating: Standard Unit -20° to 65°C (-4°F to 149°F)
Storage Temperature Range: -40° to 70°C (-40°F to 158°F)
Humidity (Non-Condensing): 10 to 90% relative humidity, non-condensing

Accessories
- Mounting Brackets
- Serial Console Cable
- Wide selection of RF Antennas and Cables

Regulatory Approvals
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Canada RSS 210 Certified
ETS 300 328 Type Approved
EN 55022 / CISPR 22 Class B
FCC Part 15 & ICES-003 Class A
SCT Certification, NOM-EM-121, pending
AS 3548, C tick Marked
Compliant with all European Directives, CE Marked (prETS 300 826)
UL Listed, C22.2 II 950
TÜV Licensed, EN 60950
NYCE Certified, NOM 19

Restrictions On Use
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WiFi™

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